Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the

application.

Listing of Claims

1   1.   (Original)   A computerized method for selecting cells in a circuit

2   design database, the circuit design database having one or more levels of hierarchy

3   including one or more logic functions composed of one or more other logic functions

4   and/or one or more leaf cells, the leaf cells forming the lowest level of hierarchy in the

5   circuit design database, each of the leaf cells having one or more inputs and one or more

6   outputs, the circuit design database having one or more nets, each of the nets for

7   connecting an output port of a source leaf cell to an input port of one or more destination

8   leaf cells, the computerized method comprising the steps of:

9   selecting one of the nets via a user input device;

10   identifying selected leaf cells that are connected to the selected net; and

11   selecting the identified leaf cells.

1   2.   (Original)   A method according to claim 1, wherein the selected leaf

2   cells identified by the identifying step include all of the leaf cells that are connected to the

3   selected net.

1   3.   (Original)   A method according to claim 1, wherein the selected leaf

2   cells identified by the identifying step include only the source leaf cell that is connected

3   to the selected net.

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1   4.   (Original)   A method according to claim 1, wherein the selected leaf

2   cells identified by the identifying step include only the destination leaf cells that are

3   connected to the selected net.

1   5.   (Original)   A method according to claim 1, wherein each of the leaf

2   cells in the circuit design database is either placed or unplaced, the identifying step only

3   identifying those leaf cells that are connected to the selected net and are placed.

1   6.   (Original)   A method according to claim 1, wherein each of the leaf

2   cells in the circuit design database is either placed or unplaced, the identifying step only

3   identifying those leaf cells that are connected to the selected net and are unplaced.

1   7.   (Original)   A method according to claim 1, further comprising the step

2   of setting a current context.

1   8.   (Original)   A method according to claim 7, wherein the selected leaf

2   cells identified by the identifying step include only those leaf cells that are connected to

3   the selected net and are in the current context.

1   9.   (Original)   A method according to claim 7, wherein the selected leaf

2   cells identified by the identifying step include only the source leaf cell that is connected

3   to the selected net and is in the current context.

1   10.   (Original)   A method according to claim 7, wherein the selected leaf

2   cells identified by the identifying step include only the destination leaf cells that are

3   connected to the selected net and are in the current context.

1   11.   (Original)   A method according to claim 7, wherein each of the leaf

2   cells in the circuit design database is either placed or unplaced, the identifying step only

3   identifying those leaf cells that are connected to the selected net, are placed, and are in

4   the current context.

1   12.   (Original)   A method according to claim 11, wherein the identifying

2   step only identifies the source leaf cell that is connected to the selected net, is placed, and

3   is in the current context, if any.

1   13.   (Original)   A method according to claim 11, wherein the identifying

2   step only identifies the source leaf cell that is connected to the selected net, is unplaced,

3   and is in the current context, if any.

1   14.   (Original)   A method according to claim 7, wherein each of the leaf

2   cells in the circuit design database is either placed or unplaced, the identifying step only

3   identifying those leaf cells that are connected to the selected net, are unplaced, and are in

4   the current context.

1   15.   (Original)   A method according to claim 1, wherein two or more of the

2   nets are selected, and the identifying step identifies selected leaf cells that are connected

3   to any of the selected nets.

1   16.   (Original)   A method according to claim 15, wherein the identifying

2   step identifies only those leaf cells that are placed.

1   17.   (Original)   A method according to claim 15, wherein the identifying

2   step identifies only those leaf cells that are unplaced.

1   18.   (Original)   A method according to claim 15, wherein the identifying

2   step identifies only those leaf cells that are in a current context.

1   19.   (Original)   A method according to claim 15, wherein the identifying

2   step identifies only those leaf cells that are source leaf cells for the selected nets.

1   20.   (Original)   A method according to claim 15, wherein the identifying

2   step identifies only those leaf cells that are destination leaf cells for the selected nets.

1   21.   (Original)   A method according to claim 15, wherein the two or more

2   nets are part of a vectored net.

1   22.   (Original)   A method according to claim 21, wherein the vectored net

2   is selected at an interface of a selected logic function.

1   23.   (Original)   A computerized method for selecting and aligning cells in a

2   circuit design database using a placement tool, the circuit design database having one or

3   more levels of hierarchy including one or more logic functions composed of one or more

4   other logic functions and/or one or more leaf cells, the leaf cells forming the lowest level

5   of hierarchy in the circuit design database, each of the leaf cells having one or more

6   inputs and one or more outputs, the circuit design database having one or more nets, each

7   of the nets for connecting an output port of a source leaf cell to an input port of one or

8   more destination leaf cells, the computerized method comprising the steps of:

9   selecting one or more of the nets via a user input device;

10   identifying and selecting selected leaf cells that are connected to the selected one

11   or more nets;

12   identifying an alignment axis; and

13   aligning selected ones of the identified leaf cells in the direction of the alignment

14   axis.

1   24.   (Original)   A method according to claim 23, wherein the alignment

2   axis is substantially horizontal.

1   25.   (Original)   A method according to claim 23, wherein the alignment

2   axis is substantially vertical.

1   26.   (Original)   A method according to claim 23, wherein each of the leaf

2   cells in the circuit design database is either placed or unplaced, the aligning step further

3   including the step of placing the identified leaf cells if not already placed.

1   27.   (Original)   A method according to claim 26, wherein the unplaced

2   identified leaf cells are first placed in a predetermined region before alignment.

1   28.   (Original)   A method according to claim 23, wherein the aligning step

2   puts the selected identified leaf cells into a predetermined order along the alignment axis.

1   29.   (Original)   A method according to claim 28, wherein the one or more

2   nets are part of a vectored net having ordered bits.

1   30.   (Original)   A method according to claim 29, wherein the aligning step

2   orders the selected identified leaf cells in accordance with the ordered bits of the vectored

3   net.

1   31.   (Original)   A method according to claim 29, wherein the aligning step

2   orders the selected identified leaf cells in reverse of the ordered bits of the vectored net.

1   32.   (Original)   A method according to claim 29, wherein each of the

2   identified leaf cells is associated with one of the ordered bits of the vectored net, and the

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3   identified leaf cells for each ordered bit has one source leaf cell and at least one

4   destination leaf cell, the aligning step putting the source leaf cells into a predetermined

5   order along the alignment axis, and putting the at least one destination leaf cell adjacent

6   the corresponding source leaf cell along an axis that is perpendicular to the alignment

7   axis.

1   33.   (Original)   A data processing system for selecting cells in a circuit

2   design database, the circuit design database having one or more levels of hierarchy

3   including one or more logic functions composed of one or more other logic functions

4   and/or one or more leaf cells, the leaf cells forming the lowest level of hierarchy in the

5   circuit design database, each of the leaf cells having one or more inputs and one or more

6   outputs, the circuit design database having one or more nets, each of the nets for

7   connecting an output port of a source leaf cell to an input port of one or more destination

8   leaf cells, the data processing system comprising:

9   net selection means for selecting one of the nets of the circuit design database;

10   leaf cell identifying means for identifying selected leaf cells that are connected to

11   the selected net; and

12   leaf cell selecting means for selecting the identified leaf cells.

1   34.   (Original)   A data processing system according to claim 33, further

2   comprising:

3   identifying means for identifying an alignment axis; and

4   aligning means for aligning the identified leaf cells in the direction of the

5   alignment axis.